



Attorney Docket No. W9459-02

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of :	)	Before the Examiner:
Keng Yu Shih	)	
Serial No.: 10/633,509	)	Group Art Unit: 1755
Filed: August 05, 2003	)	
For: Active, Heterogeneous Bi – or Tri-Dentate Catalyst	)	

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8**

Pursuant to 37 CFR §1.8, I hereby certify that I have a reasonable basis to expect that this correspondence will be deposited with the United States Postal Service on or before the date indicated as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

February 4, 2004 [Signature]  
Date Signature

**INFORMATION DISCLOSURE STATEMENT TRANSMITTAL  
LETTER/PETITION FOR CONSIDERATION UNDER 37 CFR §1.97**

- I. Enclosed is:
- a. ☒ Information Disclosure Statement Form No. PTO-1449.
  - b. ☐ Copy of the European Search Report dated \_\_\_\_\_ on European Application No. \_\_\_\_\_ which is:
    - ☐ The European counterpart of the above-identified U.S. application or one of its Parental ancestors, i.e. USSN \_\_\_\_\_, filed \_\_\_\_\_.
    - ☐ The European counterpart of related USSN \_\_\_\_\_, filed \_\_\_\_\_.
  - c. ☐ Copy of the PCT Search Report dated \_\_\_\_\_ on PCT Application No. \_\_\_\_\_ which is:
    - ☐ The PCT counterpart of the above-identified U.S. application or one of its Parental ancestors, i.e. USSN \_\_\_\_\_, filed \_\_\_\_\_.

☐ The PCT counterpart of related USSN \_\_\_\_\_, filed \_\_\_\_\_.

d. ☐ Copy of the \_\_\_\_\_ Search Report dated \_\_\_\_\_ on the corresponding  
\_\_\_\_\_ counterpart of the above-identified U.S. application.  
(country)

e. ☐ Explanatory comments attached hereto as Appendix 1.

f. ☒ COPIES\_(check at least one box)

☒ A legible copy of (i) each ☐ U.S.\* ☒ foreign patent; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed. (\*Copies Of US Patents do not have to be provided for all U.S. national patent applications filed after June 30, 2003 and for all international applications that have entered the national stage under 35 USC § 371 after June 30, 2003).

☒ Some or all of the documents listed on the PTO1449 are not enclosed because they were previously cited by or submitted to the Patent and Trademark Office in an earlier US Application, of which is relied upon in the present application for an earlier filing date under 35 U.S.C. 120. If copies are needed, please contact the undersigned.

g. ☒ Concise Explanation Of Relevance  
(check at least one box)

☐ Documents Not In The English Language

☐ A concise explanation of the relevance of all patents, publications or other information listed that is **not** in the English language is as follows:

☐ A concise explanation of the relevance of all patents, publications or other information listed that is **not** in the English language is as attached.

☒ Documents In The English Language

All of the patents, publications or other information are in the English language. No statement of relevancy is required.

☐ English Language Search Report

An English language version of the search report or action which indicates the degree of relevance found by the foreign office is attached, thereby satisfying the requirement for a concise explanation. See MPEP 609(A)(3).

☐ Other

The following additional information is provided for the Examiner's consideration.

II. ☒ The Examiner is requested to consider the references cited in the attached Information Disclosure Statement without a fee or certification because it was filed:

- ☐ within three months of the filing date of this national application, other than a continued prosecution application under 1.53(d);
- ☐ within three months of the date of entry of the national stage as set forth in §1.491 in an international application;
- ☒ before the mailing date of a first Office Action on the merits; or
- ☐ before the mailing of a first Office Action after filing of a Request for Continued Examination under §1.114.

III. ☐ The Examiner is requested to consider the attached Information Disclosure Statement pursuant to 37 CFR §1.97(c) in that it is being filed after the periods specified in Paragraph II above, but before the first to occur of the mailing date of either:

- ☐ Final Action under 37 CFR §1.113; or
- ☐ Notice of Allowance under 37 CFR §1.311; or
- ☐ An action that otherwise closes prosecution in the application;

and in support of such request the undersigned either:

- ☐ has made the certification hereinbelow at Paragraph IVB pursuant to 37 CFR §1.97(e); or
- ☐ is paying a petition fee under 37 CFR §1.17(p) in the amount of \$180.00.

IVA. ☐ The Examiner is requested to consider the attached Information Disclosure Statement pursuant to 37 CFR §1.97(d) in that it is being filed before the payment of the Base Issue Fee and after the mailing date of any:

- (1) Final Action under 37 CFR §1.113;
- (2) Notice of Allowance under 37 CFR §1.311; or
- (3) An action that otherwise closes prosecution in the application.

and in support of said request the undersigned:

- (i) has made the certification hereinbelow at Paragraph IVB pursuant to 37 CFR §1.97(e); and
- (ii) is paying a petition fee under 37 CFR §1.17 (P) in the amount of \$180.00.

IVB. Certification Under 37 CFR §1.97(e)  
[applicable to only III or IV above]

- ☐ The undersigned hereby certifies that for each item of information contained in the Information Disclosure Statement it was either:
  - (1) first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the statement, or

- (2) not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned upon making reasonable inquiry, was not known to any individual designated in §1.56(c) more than three months prior to the filing of the statement.

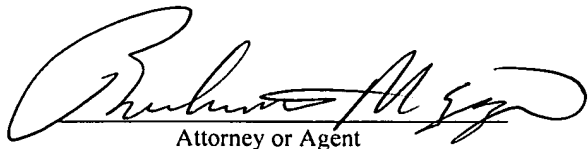
- V. ☒ The Examiner is requested to make the art of record in the following parental U.S. applications relied upon for an earlier filing date under 35 USC §120, of record in the present above-identified application.

U. S. Serial No.	Filing Date
09/431,803	November 01, 1999

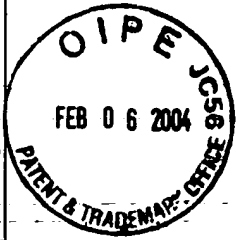
VI. Fee Payment

- ☐ Petition fee under 37 CFR §1.17(p) to consider Information Disclosure Statement under 37 CFR §1.97(c) and (d) (fee code 1806) is \$180.00.
- ☐ Charge \$\_\_\_\_\_ to Deposit Account No. 07-1770.
- ☐ The Commissioner is hereby authorized to charge any additional fees under 37 CFR §1.16 and §1.17 which may be required by this paper, or credit any overpayment, to Deposit Account No. 07-1770. A duplicate copy of this Form is enclosed.
- ☐ A check in the amount of the fee is enclosed
- ☒ No fee due.

2/4/04  
Date of Signature

  
Attorney or Agent  
Robert A. Maggio - Reg. No. 28,032  
Telephone: (410) 531-4508

Post Office Address (to which correspondence is to be sent): W. R. Grace & Co.-Conn.  
Patent Dept.  
7500 Grace Drive  
Columbia, MD 21044-4098

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT  
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SERIAL NO

10/633,509

APPLICANT

Keng-Yu Shih

FILING DATE

8/5/2003

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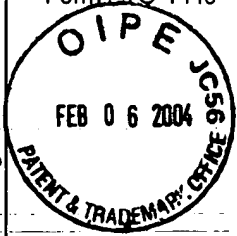
## U.S. PATENT DOCUMENTS

EXAMINER INITIAL*	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	Copy Submitted
	4234453	11/18/1980	Rekers et al	252	428	9/20/76	<input type="checkbox"/>
	4375406	3/1/1983	Santilli	208	251	01/21/1981	<input type="checkbox"/>
	4629712	12/16/1986	Pinnavaia et al.	502	63	8/17/1984	<input type="checkbox"/>
	4637992	1/20/1987	Lewis et al.	502	84	12/17/1984	<input type="checkbox"/>
	4701432	10/20/1987	Welborn Jr.				<input type="checkbox"/>
	4716205	12/29/1987	Klabunde				<input type="checkbox"/>
	4761391	8/2/1988	Occelli	502	63	6/30/1986	<input type="checkbox"/>
	4904631	2/27/1990	Chang				<input type="checkbox"/>
	4981825	1/1/1991	Pinnavaia et al.	502	63	9/12/1989	<input type="checkbox"/>
	4995964	2/26/1991	Gortsema et al.	208	112	2/26/1988	<input type="checkbox"/>
	5008228	4/16/1991	Chang				<input type="checkbox"/>
	5238892	8/24/1993	Chang	502	111	6/15/1992	<input type="checkbox"/>
	5240894	8/31/1993	Burkhardt et al.				<input type="checkbox"/>
	5308811	5/3/1994	Suga et al.	502	62	5/1/1992	<input type="checkbox"/>
	5382738	1/17/1995	Reagen et al.				<input type="checkbox"/>
	5395808	3/7/1995	Miller et al.	502	7	12/21/1992	<input type="checkbox"/>
	5399636	3/21/1995	Alt et al.	526	129	6/11/1993	<input type="checkbox"/>
	5403799	8/4/1995	Miller et al.	502	64	12/21/1992	<input type="checkbox"/>
	5403809	4/4/1995	Miller et al	502	413	12/21/92	<input type="checkbox"/>

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DATE CONSIDERED

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.


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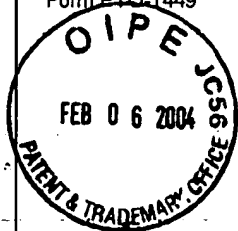
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EXAMINER INITIAL*	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	Copy Submitted
	5529965	6/25/1996	Chang				<input type="checkbox"/>
	5569634	10/29/1996	Miller et al	502	64	12/12/1994	<input type="checkbox"/>
	5629253	5/13/1997	Chang				<input type="checkbox"/>
	5633419	5/27/1997	Spencer et al.	585	522	6/6/1995	<input type="checkbox"/>
	5637660	6/10/1997	Nagy et al.				<input type="checkbox"/>
	5707913	1/13/1998	Schlund et al.				<input type="checkbox"/>
	5753577	5/19/1998	Hamura et al.	502	113	2/21/1997	<input type="checkbox"/>
	5807800	9/15/1998	Shamshoum et al.	502	104	2/11/1997	<input type="checkbox"/>
	5807938	9/15/1998	Kaneko et al.	526	160	2/20/1996	<input type="checkbox"/>
	5817724	10/6/1998	Aoki et al.	526	127	1/21/97	<input type="checkbox"/>
	5830820	11/3/1998	Yano et al.	502	62	3/13/1997	<input type="checkbox"/>
	5852146	12/22/1998	Reichle et al.				<input type="checkbox"/>
	5866663	2/2/1999	Brookhart et al.	526	170	7/10/1997	<input type="checkbox"/>
	5880241	3/9/1999	Brookhart	526	348	6/24/1996	<input type="checkbox"/>
	5880323	3/9/1999	Brookhart, III et al.	585	527	7/10/1997	<input type="checkbox"/>
	5886224	3/23/1999	Brookhart et al.	564	272	7/10/1997	<input type="checkbox"/>
	5891963	4/6/1999	Brookhart et al.	525	326.1	7/10/1997	<input type="checkbox"/>
	5955555	9/21/1999	Bennett	526	133	12/16/97	<input type="checkbox"/>

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PATENT AND TRADEMARK OFFICEPage 3 of 4INFORMATION DISCLOSURE  
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**Keng-Yu Shih**

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## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL*	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANS SUBMITTED?	Copy Submitted	ENG LANG EQUIV
	19746280	4/22/1999	DE	C08F	4/42	Yes	<input type="checkbox"/>	
	490226	6/17/1992	Europe	BO1J	2/00	No	<input type="checkbox"/>	
	849288	12/19/1997	Europe	C08F	10/00	No	<input type="checkbox"/>	
	849292	6/24/1998	Europe	C08F	10/00	No	<input type="checkbox"/>	
	881232	12/2/1998	Europe	C08F	4/602	No	<input type="checkbox"/>	
	10-338516	12/22/1998	Japan	C01B	33/40	Yes	<input type="checkbox"/>	
	WO 99/12981	3/18/1999	PCT			No	<input type="checkbox"/>	
	WO 00/20467	4/13/2000	PCT	C08F	4/603	No	<input type="checkbox"/>	
	WO 96/23010	8/1/1996	PCT	C08F	210/16	No	<input type="checkbox"/>	
	WO 97/48743	12/24/1997	PCT	C08F	10/00	No	<input type="checkbox"/>	
	WO 98/27124	6/25/1998	PCT	C08F	10/00	No	<input type="checkbox"/>	
	WO 98/30612	7/16/1998	PCT	C08F	10/06	No	<input type="checkbox"/>	
	WO 98/56832	12/17/1998	PCT	C08F	4/70	No	<input type="checkbox"/>	
	WO 99/43722	9/2/1999	PCT	C08F	10/02	No	<input type="checkbox"/>	
	WO 99/46302	9/16/1999	PCT	C08F	4/70	No	<input type="checkbox"/>	
	WO 99/46303	9/16/1999	PCT	C08F	10/00	No	<input type="checkbox"/>	
	WO 99/46304	9/16/1999	PCT	C08F	4/70	No	<input type="checkbox"/>	

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		APPLICANT <b>Keng-Yu Shih</b>			
		FILING DATE  <b>8/5/2003</b>		GROUP	
EXAMINER INITIAL*	OTHER DOCUMENTS ( Including author , Title, Date, Pertinent Pages, Etc.)			TRANS SUBMITTED ?	Copy Submitted
	Pasquale Longo, Fabia Grisi, Antonio Proto, Adolfo Zambelli, "New Ni(II) based catalysts in the polymerization of olefins", Macromol. Rapid Commun. 19, 31-34 (1998)			No	<input type="checkbox"/>
	Lynda K. Johnson, Stefan Mecking, and Maurice Brookhart, "Copolymerization of Ethylene and Propylene with Functionalized Vinyl Monomers by Palladium (II) Catalysts", 1996 American Chemical Society, Vol. 118, No. 1, 1996			No	<input type="checkbox"/>
	Lynda K. Johnson, Christopher M. Killian, and Maurice Brookhart, "New Pd(II)- and Ni(II)-Based Catalysts for Polymerization of Ethylene and $\alpha$ -olefins", Journal American Chemical Society 1995, 177, 6414-6415.			No	<input type="checkbox"/>
	"Novel polymerization reactions catalyzed by homogeneous Pd(II) and Ni(II) $\alpha$ -diimino complexes", CatTech Highlights, March 1997; pg. 65-66			No	<input type="checkbox"/>
	"New Catalysts to Polymerize Olefins", C&EN, April 13, 1998, pp 11-12			No	<input type="checkbox"/>
	Rip A. Lee, Rene J. Lachicotte, and Guillermo C. Bazan, "Zirconium Complexes of 9-Phenyl-9-borataanthracene. Synthesis, Structural Characterization, and Reactivity", Journal American Chemical Society 1998, 120, 6037-6046			No	<input type="checkbox"/>
	Brooke L. Small, Maurice Brookhart, and Alison M.A. Bennett, "Highly Active Iron and Cobalt Catalysts for the Polymerization of Ethylene", Journal American Chemical Society 1998, 120, 4049-4050			No	<input type="checkbox"/>

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